

SEQUENCE LISTING

<110> Boone, Thomas C
Wild, Kenneth D
Sitney, Karen C
Min, Hosung
Kimmel, Bruce

<120> Peptides and Related Molecules That Modulate Nerve Growth Factor Activity

<130> A-827US

<140> Not Yet Assigned

<141> 2003-09-18

<150> 60/412,524

<151> 2002-09-19

<160> 286

<170> PatentIn version 3.1

<210> 1

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

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ly occurring sequence

<400> 1

Thr Gly Tyr Thr Glu Tyr Thr Glu Glu Trp Pro Met Gly Phe Gly Tyr
1 5 10 15

Gln Trp Ser Phe
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<210> 2

<211> 20

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ly occurring sequence

<400> 2

Thr Asp Trp Leu Ser Asp Phe Pro Phe Tyr Glu Gln Tyr Phe Gly Leu
1 5 10 15

Met Pro Pro Gly
20

<210> 3

<211> 20

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ly occurring sequence

<400> 3

Phe Met Arg Phe Pro Asn Pro Trp Lys Leu Val Glu Pro Pro Gln Gly
1 5 10 15

Trp Tyr Tyr Gly
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<210> 4

<211> 20

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ly occurring sequence

<400> 4

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Val | Lys | Ala | Pro | His | Phe | Glu | Phe | Leu | Ala | Pro | Pro | His | Phe | His |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

| | | | |
|-----|-----|-----|-----|
| Glu | Phe | Pro | Phe |
| | | | 20 |

<210> 5

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ly occurring sequence

<400> 5

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Phe | Ser | Tyr | Ile | Trp | Ile | Asp | Glu | Thr | Pro | Ser | Asn | Ile | Asp | Arg | Tyr |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

| | | | |
|-----|-----|-----|-----|
| Met | Leu | Trp | Leu |
| | | | 20 |

<210> 6

<211> 20

<212> PRT

<213> Artificial Sequence

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ly occurring sequence

<400> 6

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Asn | Phe | Pro | Lys | Val | Pro | Glu | Asp | Val | Glu | Pro | Trp | Pro | Trp | Ser |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

| | | | |
|-----|-----|-----|-----|
| Leu | Lys | Leu | Tyr |
|-----|-----|-----|-----|

20

<210> 7

<211> 20

<212> PRT

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ly occurring sequence

<400> 7

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Thr | Trp | His | Pro | Lys | Thr | Tyr | Glu | Glu | Phe | Ala | Leu | Pro | Phe | Phe | Val |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

| | | | |
|-----|-----|-----|-----|
| Pro | Glu | Ala | Pro |
| | | | 20 |

<210> 8

<211> 20

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ly occurring sequence

<400> 8

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Trp | His | Phe | Gly | Thr | Pro | Tyr | Ile | Gln | Gln | Gln | Pro | Gly | Val | Tyr | Trp |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

| | | | |
|-----|-----|-----|-----|
| Leu | Gln | Ala | Pro |
| | | | 20 |

<210> 9

<211> 20

<212> PRT

<213> Artificial Sequence

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<223> Therapeutically active peptide of randomly generated, non-natural
ly occurring sequence

<400> 9

Val Trp Asn Tyr Gly Pro Phe Phe Met Asn Phe Pro Asp Ser Thr Tyr
1 5 10 15Phe Leu His Glu
20

<210> 10

<211> 20

<212> PRT

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<223> Therapeutically active peptide of randomly generated, non-natural
ly occurring sequence

<400> 10

Trp Arg Ile His Ser Lys Pro Leu Asp Tyr Ser His Val Trp Phe Phe
1 5 10 15Pro Ala Asp Phe
20

<210> 11

<211> 20

<212> PRT

<213> Artificial Sequence

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<223> Therapeutically active peptide of randomly generated, non-natural
ly occurring sequence

<400> 11

Phe Trp Asp Gly Asn Gln Pro Pro Asp Ile Leu Val Asp Trp Pro Trp
1 5 10 15Asn Pro Pro Val
20

<210> 12

<211> 20

<212> PRT

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<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 12

Phe Tyr Ser Leu Glu Trp Leu Lys Asp His Ser Glu Phe Phe Gln Thr
1 5 10 15

Val Thr Glu Trp
20

<210> 13

<211> 20

<212> PRT

<213> Artificial Sequence

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<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 13

Gln Phe Met Glu Leu Leu Lys Phe Phe Asn Ser Pro Gly Asp Ser Ser
1 5 10 15

His His Phe Leu
20

<210> 14

<211> 20

<212> PRT

<213> Artificial Sequence

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<223> Therapeutically active peptide of randomly generated, non-natural

ly occurring sequence

<400> 14

Thr Asn Val Asp Trp Ile Ser Asn Asn Trp Glu His Met Lys Ser Phe
1 5 10 15

Phe Thr Glu Asp
20

<210> 15

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-natural
ly occurring sequence

<400> 15

Pro Asn Glu Lys Pro Tyr Gln Met Gln Ser Trp Phe Pro Pro Asp Trp
1 5 10 15

Pro Val Pro Tyr
20

<210> 16

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-natural
ly occurring sequence

<400> 16

Trp Ser His Thr Glu Trp Val Pro Gln Val Trp Trp Lys Pro Pro Asn
1 5 10 15

His Phe Tyr Val
20

<210> 17

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-natural
ly occurring sequence

<400> 17

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Trp | Gly | Glu | Trp | Ile | Asn | Asp | Ala | Gln | Val | His | Met | His | Glu | Gly | Phe |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

| | | | |
|-----|-----|-----|-----|
| Ile | Ser | Glu | Ser |
| | | | 20 |

<210> 18

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-natural
ly occurring sequence

<400> 18

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Pro | Trp | Glu | His | Asp | His | Asp | Leu | Trp | Glu | Ile | Ile | Ser | Gln | Asp |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

| | | | |
|-----|-----|-----|-----|
| Trp | His | Ile | Ala |
| | | | 20 |

<210> 19

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-natural
ly occurring sequence

<400> 19

Val Leu His Leu Gln Asp Pro Arg Gly Trp Ser Asn Phe Pro Pro Gly
1 5 10 15

Val Leu Glu Leu
20

<210> 20

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-natural
ly occurring sequence

<400> 20

Ile His Gly Cys Trp Phe Thr Glu Glu Gly Cys Val Trp Gln
1 5 10

<210> 21

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-natural
ly occurring sequence

<400> 21

Tyr Met Gln Cys Gln Phe Ala Arg Asp Gly Cys Pro Gln Trp
1 5 10

<210> 22

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-natural

ly occurring sequence

<400> 22

Lys Leu Gln Cys Gln Tyr Ser Glu Ser Gly Cys Pro Thr Ile
1 5 10

<210> 23

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-natural
ly occurring sequence

<400> 23

Phe Leu Gln Cys Glu Ile Ser Gly Gly Ala Cys Pro Ala Pro
1 5 10

<210> 24

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-natural
ly occurring sequence

<400> 24

Lys Leu Gln Cys Glu Phe Ser Thr Ser Gly Cys Pro Asp Leu
1 5 10

<210> 25

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-natural
ly occurring sequence

<400> 25

Lys Leu Gln Cys Glu Phe Ser Thr Gln Gly Cys Pro Asp Leu
1 5 10

<210> 26

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-natural
ly occurring sequence

<400> 26

Lys Leu Gln Cys Glu Phe Ser Thr Ser Gly Cys Pro Trp Leu
1 5 10

<210> 27

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-natural
ly occurring sequence

<400> 27

Ile Gln Gly Cys Trp Phe Thr Glu Glu Gly Cys Pro Trp Gln
1 5 10

<210> 28

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-natural
ly occurring sequence

<400> 28

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ser | Phe | Asp | Cys | Asp | Asn | Pro | Trp | Gly | His | Val | Leu | Gln | Ser | Cys | Phe |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

Gly Phe

<210> 29

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-natural
ly occurring sequence

<400> 29

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ser | Phe | Asp | Cys | Asp | Asn | Pro | Trp | Gly | His | Lys | Leu | Gln | Ser | Cys | Phe |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

Gly Phe

<210> 30

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

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ly occurring sequence

<400> 30

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Thr | Gly | Tyr | Thr | Glu | Tyr | Thr | Glu | Glu | Trp | Pro | Met | Gly | Phe | Gly |
| 1 | | | | 5 | | | | 10 | | | | | | 15 | |

Tyr Gln Trp Ser Phe
20

<210> 31

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-natural
ly occurring sequence

<400> 31

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Thr | Asp | Trp | Leu | Ser | Asp | Phe | Pro | Phe | Tyr | Glu | Gln | Tyr | Phe | Gly |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

| | | | | |
|-----|-----|-----|-----|-----|
| Leu | Met | Pro | Pro | Gly |
| | | | 20 | |

<210> 32

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-natural
ly occurring sequence

<400> 32

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Phe | Met | Arg | Phe | Pro | Asn | Pro | Trp | Lys | Leu | Val | Glu | Pro | Pro | Gln |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

| | | | | |
|-----|-----|-----|-----|-----|
| Gly | Trp | Tyr | Tyr | Gly |
| | | | 20 | |

<210> 33

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-natural
ly occurring sequence

<400> 33

Met Val Val Lys Ala Pro His Phe Glu Phe Leu Ala Pro Pro His Phe

1 5 10 15

His Glu Phe Pro Phe
 20

<210> 34

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-natural
ly occurring sequence

<400> 34

Met Phe Ser Tyr Ile Trp Ile Asp Glu Thr Pro Ser Asn Ile Asp Arg
1 5 10 15

Tyr Met Leu Trp Leu
 20

<210> 35

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-natural
ly occurring sequence

<400> 35

Met Val Asn Phe Pro Lys Val Pro Glu Asp Val Glu Pro Trp Pro Trp
1 5 10 15

Ser Leu Lys Leu Tyr
 20

<210> 36

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 36

Met Thr Trp His Pro Lys Thr Tyr Glu Glu Phe Ala Leu Pro Phe Phe
1 5 10 15

Val Pro Glu Ala Pro
20

<210> 37

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 37

Met Trp His Phe Gly Thr Pro Tyr Ile Gln Gln Gln Pro Gly Val Tyr
1 5 10 15

Trp Leu Gln Ala Pro
20

<210> 38

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 38

Met Val Trp Asn Tyr Gly Pro Phe Phe Met Asn Phe Pro Asp Ser Thr
1 5 10 15

Tyr Phe Leu His Glu
20

<210> 39

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-natural
ly occurring sequence

<400> 39

Met Trp Arg Ile His Ser Lys Pro Leu Asp Tyr Ser His Val Trp Phe
1 5 10 15

Phe Pro Ala Asp Phe
20

<210> 40

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-natural
ly occurring sequence

<400> 40

Met Phe Trp Asp Gly Asn Gln Pro Pro Asp Ile Leu Val Asp Trp Pro
1 5 10 15

Trp Asn Pro Pro Val
20

<210> 41

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-natural
ly occurring sequence

<400> 41

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Phe | Tyr | Ser | Leu | Glu | Trp | Leu | Lys | Asp | His | Ser | Glu | Phe | Phe | Gln |
| 1 | | | | 5 | | | | 10 | | | | | | 15 | |

| | | | | |
|-----|-----|-----|-----|-----|
| Thr | Val | Thr | Glu | Trp |
| | | | 20 | |

<210> 42

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-natural
ly occurring sequence

<400> 42

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Gln | Phe | Met | Glu | Leu | Leu | Lys | Phe | Phe | Asn | Ser | Pro | Gly | Asp | Ser |
| 1 | | | | 5 | | | | 10 | | | | | | 15 | |

| | | | | |
|-----|-----|-----|-----|-----|
| Ser | His | His | Phe | Leu |
| | | | 20 | |

<210> 43

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-natural
ly occurring sequence

<400> 43

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Thr | Asn | Val | Asp | Trp | Ile | Ser | Asn | Asn | Trp | Glu | His | Met | Lys | Ser |
| 1 | | | | 5 | | | | 10 | | | | | | 15 | |

| | | | | |
|-----|-----|-----|-----|-----|
| Phe | Phe | Thr | Glu | Asp |
|-----|-----|-----|-----|-----|

20

<210> 44

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-natural
ly occurring sequence

<400> 44

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Pro | Asn | Glu | Lys | Pro | Tyr | Gln | Met | Gln | Ser | Trp | Phe | Pro | Pro | Asp |
| 1 | | | | 5 | | | | 10 | | | | | | 15 | |

| | | | | |
|-----|-----|-----|-----|-----|
| Trp | Pro | Val | Pro | Tyr |
| | | | 20 | |

<210> 45

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-natural
ly occurring sequence

<400> 45

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Trp | Ser | His | Thr | Glu | Trp | Val | Pro | Gln | Val | Trp | Trp | Lys | Pro | Pro |
| 1 | | | | 5 | | | | 10 | | | | | | 15 | |

| | | | | |
|-----|-----|-----|-----|-----|
| Asn | His | Phe | Tyr | Val |
| | | | 20 | |

<210> 46

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 46

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Trp | Gly | Glu | Trp | Ile | Asn | Asp | Ala | Gln | Val | His | Met | His | Glu | Gly |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

| | | | | |
|-----|-----|-----|-----|-----|
| Phe | Ile | Ser | Glu | Ser |
| | | | 20 | |

<210> 47

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 47

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Val | Pro | Trp | Glu | His | Asp | His | Asp | Leu | Trp | Glu | Ile | Ile | Ser | Gln |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

| | | | | |
|-----|-----|-----|-----|-----|
| Asp | Trp | His | Ile | Ala |
| | | | 20 | |

<210> 48

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 48

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Val | Leu | His | Leu | Gln | Asp | Pro | Arg | Gly | Trp | Ser | Asn | Phe | Pro | Pro |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

| | | | | |
|-----|-----|-----|-----|-----|
| Gly | Val | Leu | Glu | Leu |
| | | | 20 | |

<210> 49

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-natural
ly occurring sequence

<400> 49

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ile | His | Gly | Cys | Trp | Phe | Thr | Glu | Glu | Gly | Cys | Val | Trp | Gln |
| 1 | | | | 5 | | | | | 10 | | | | | 15 |

<210> 50

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-natural
ly occurring sequence

<400> 50

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Tyr | Met | Gln | Cys | Gln | Phe | Ala | Arg | Asp | Gly | Cys | Pro | Gln | Trp |
| 1 | | | | 5 | | | | | 10 | | | | | 15 |

<210> 51

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-natural
ly occurring sequence

<400> 51

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Lys | Leu | Gln | Cys | Gln | Tyr | Ser | Glu | Ser | Gly | Cys | Pro | Thr | Ile |
| 1 | | | | 5 | | | | | 10 | | | | | 15 |

<210> 52

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-natural
ly occurring sequence

<400> 52

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Phe | Leu | Gln | Cys | Glu | Ile | Ser | Gly | Gly | Ala | Cys | Pro | Ala | Pro |
| 1 | | | | 5 | | | | | 10 | | | | | 15 |

<210> 53

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-natural
ly occurring sequence

<400> 53

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Lys | Leu | Gln | Cys | Glu | Phe | Ser | Thr | Ser | Gly | Cys | Pro | Asp | Leu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 |

<210> 54

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-natural
ly occurring sequence

<400> 54

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Lys | Leu | Gln | Cys | Glu | Phe | Ser | Thr | Gln | Gly | Cys | Pro | Asp | Leu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 |

<210> 55

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-natural
ly occurring sequence

<400> 55

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Lys | Leu | Gln | Cys | Glu | Phe | Ser | Thr | Ser | Gly | Cys | Pro | Trp | Leu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 |

<210> 56

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-natural
ly occurring sequence

<400> 56

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ile | Gln | Gly | Cys | Trp | Phe | Thr | Glu | Glu | Gly | Cys | Pro | Trp | Gln |
| 1 | | | | 5 | | | | | 10 | | | | | 15 |

<210> 57

<211> 19

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-natural
ly occurring sequence

<400> 57

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ser | Phe | Asp | Cys | Asp | Asn | Pro | Trp | Gly | His | Val | Leu | Gln | Ser | Cys |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

Phe Gly Phe

<210> 58

<211> 19

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 58

Met Ser Phe Asp Cys Asp Asn Pro Trp Gly His Lys Leu Gln Ser Cys
1 5 10 15

Phe Gly Phe

<210> 59

<211> 684

<212> DNA

<213> Homo sapiens

<400> 59

| | |
|--|-----|
| atggacaaaa ctcacacatg tccaccttgt ccagctccgg aactcctggg gggaccgtca | 60 |
| gtcttctctt tcccccaaaa acccaaggac accctcatga tctcccggac cctgagggtc | 120 |
| acatgcgtgg tgggtggacgt gagccacgaa gaccctgagg tcaagttcaa ctggtacgtg | 180 |
| gacggcgtgg aggtgcataa tgccaagaca aagccgcggg aggagcagta caacagcacg | 240 |
| taccgtgtgg tcagcgtcct caccgtcctg caccaggact ggctgaatgg caaggagtac | 300 |
| aagtgcaagg tctccaacaa agccctccca gccccatcg agaaaaccat ctccaaagcc | 360 |
| aaagggcagc cccgagaacc acaggtgtac accctgcccc catcccggga tgagctgacc | 420 |
| aagaaccagg tcagcctgac ctgcctggtc aaaggcttct atcccagcga catcgccgtg | 480 |
| gagtgaggaga gcaatgggca gccggagaac aactacaaga ccacgcctcc cgtgctggac | 540 |
| tccgacggct ctttcttct ctacagcaag ctcaccgtgg acaagagcag gtggcagcag | 600 |
| gggaacgtct tctcatgctc cgtgatgcat gaggctctgc acaaccacta cacgcagaag | 660 |
| agcctctccc tgtctccggg taaa | 684 |

<210> 60

<211> 228

<212> PRT

<213> Homo sapiens

<400> 60

Met Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu
 1 5 10 15

Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu
 20 25 30

Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser
 35 40 45

His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu
 50 55 60

Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr
 65 70 75 80

Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn
 85 90 95

Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro
 100 105 110

Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln
 115 120 125

Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val
 130 135 140

Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val
 145 150 155 160

Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro
 165 170 175

Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr
 180 185 190

Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val
 195 200 205

Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu
 210 215 220

Ser Pro Gly Lys
 225

<210> 61

<211> 779

<212> DNA

<213> Artificial Sequence

<220>

<223> Expression vector component

<400> 61
 tctagatttg ttttaactaa tttaaaggagg aataacatat ggggtgcacag aaagcggccg 60
 caaaaaaact cgaggggtgga ggcgggtgggg acaaaaactca cacatgtcca ccttgcccag 120
 cacctgaact cctggggggga ccgtcagttt tcctcttccc cccaaaaccc aaggacaccc 180
 tcatgatctc ccggaccctt gaggtcacat gcgtgggtgt ggacgtgagc cacgaagacc 240
 ctgaggtcaa gttcaactgg tacgtggacg gcgtggaggt gcataatgcc aagacaaagc 300
 cgcgggagga gcagtacaac agcacgtacc gtgtgggtcag cgtcctcacc gtctgcaca 360
 ggactggctg aatggcaagg agtacaagtg caaggctctc aacaaagccc tcccagcccc 420
 catcgagaaa accatctcca aagccaaagg gcagccccga gaaccacagg tgtacaccct 480
 gcccccatcc cgggatgagc tgaccaagaa ccaggtcagc ctgacctgcc tgggtcaaagg 540
 cttctatccc agcgacatcg ccgtggagtg ggagagcaat gggcagccgg agaacaacta 600
 caagaccacg cctcccgtgc tggactccga cggctccttc ttcctctaca gcaagctcac 660
 cgtggacaag agcaggtggc agcaggggaa cgtcttctca tgctccgtga tgcattgaggc 720
 tctgcacaa cactacacgc agaagagcct ctccctgtct ccgggtaaat aatggatcc 779

<210> 62

<211> 780

<212> DNA

<213> Artificial Sequence

<220>

<223> Expression vector component

<400> 62
agatctaaac aaaattgatt aatttcctcc ttattgtata cccacgtgtc tttcgccggc 60
gttttttttga gctcccacct ccgccacccc tgttttgagt gtgtacaggt ggaacgggtc 120
gtggacttga ggacccccct ggcagtcaaa aggagaaggg gggttttggg ttcctgtggg 180
agtactagag ggccctgggga ctccagtgtg cgcaccacca cctgcactcg gtgcttcttg 240
gactccagtt caagttgacc atgcacctgc cgcacctcca cgtattacgg ttctgtttcg 300
gcgccctcct cgtcatgttg tcgtgcatgg cacaccagtc gcaggagtgg caggacgtgg 360
tcctgaccga cttaccgttc ctcatgttca cgttccagag gttgtttcgg gagggtcggg 420
ggtagctctt ttggtagagg ttctcggtttc ccgtcggggc tcttggtgtc cacatgtggg 480
acgggggtag ggccctactc gactggttct tggtcagtc ggactggacg gaccagtttc 540
cgaagatagg gtcgctgtag cggcacctca ccctctcgtt acccgtcggc ctcttggtga 600
tgttctggtg cggagggcac gacctgaggc tgccgaggaa gaaggagatg tcgttcgagt 660
ggcacctgtt ctctgccacc gtcgtcccct tgcagaagag tacgaggcac tacgtactcc 720
gagacgtggt ggtgatgtgc gtcttctcgg agagggacag aggccattt attacctagg 780

<210> 63

<211> 57

<212> DNA

<213> Artificial Sequence

<220>

<223> Encodes for therapeutically active peptides with methionine residue at N-terminus

<400> 63
atgattcatg gttgttggtt tacagaagaa ggttgtgttt ggcaactcga ggggtgga 57

<210> 64

<211> 57

<212> DNA

<213> Artificial Sequence

<220>

<223> Encodes for therapeutically active peptides with methionine residue at N-terminus

<400> 64
atgtatatgc aatgtcaatt tgctcgtgat ggttgtccac aatggctcga ggggtgga 57

<210> 65

<211> 57

<212> DNA

<213> Artificial Sequence

<220>

<223> Encodes for therapeutically active peptides with methionine residue at N-terminus

<400> 65

atgaaattac aatgtcaata ttctgaatct ggttgtccaa caattctcga gggtgga 57

<210> 66

<211> 57

<212> DNA

<213> Artificial Sequence

<220>

<223> Encodes for therapeutically active peptides with methionine residue at N-terminus

<400> 66

atgtttttac aatgtgaaat ttctgggtggt gcttgtccag ctccactcga gggtgga 57

<210> 67

<211> 57

<212> DNA

<213> Artificial Sequence

<220>

<223> Encodes for therapeutically active peptides with methionine residue at N-terminus

<400> 67

atgaaattac aatgtgaatt ttctacttct ggttgtccag atttactcga gggtgga 57

<210> 68

<211> 57

<212> DNA

<213> Artificial Sequence

<220>

<223> Encodes for therapeutically active peptides with methionine residue at N-terminus

<400> 68
atgaaattac aatgtgaatt ttctactcaa ggttggtccag atttactcga ggggtgga 57

<210> 69

<211> 57

<212> DNA

<213> Artificial Sequence

<220>

<223> Encodes for therapeutically active peptides with methionine residue at N-terminus

<400> 69
atgaaattac aatgtgaatt ttctacttct ggttggtcctt ggttactcga ggggtgga 57

<210> 70

<211> 57

<212> DNA

<213> Artificial Sequence

<220>

<223> Encodes for therapeutically active peptides with methionine residue at N-terminus

<400> 70
atgattcaag gttggttggtt tactgaagaa ggttggtcctt ggcaactcga ggggtgga 57

<210> 71

<211> 69

<212> DNA

<213> Artificial Sequence

<220>

<223> Encodes for therapeutically active peptides with methionine residue at N-terminus

<400> 71
atgtcttttg attgtgataa tccttggggg catgttttac aatcttggtt tggttttctc 60
gaggggtgga 69

<210> 72

<211> 69

<212> DNA

<213> Artificial Sequence

<220>

<223> Encodes for therapeutically active peptides with methionine residue at N-terminus

<400> 72
atgtcttttg attgtgataa tccttggggg cataaattac aatcttggtt tggttttctc 60
gaggggtgga 69

<210> 73

<211> 75

<212> DNA

<213> Artificial Sequence

<220>

<223> Encodes for therapeutically active peptides with methionine residue at N-terminus

<400> 73
atgacagggt atacagaata tacagaagaa tggccaatgg gttttgggta tcaatgggtc 60
tttctcgagg gtgga 75

<210> 74

<211> 75

<212> DNA

<213> Artificial Sequence

<220>

<223> Encodes for therapeutically active peptides with methionine residue at N-terminus

<400> 74
atgacagatt ggttatctga ttttccattc tatgaacaat actttggttt aatgccacct 60
ggtctcgagg gtgga 75

<210> 75

<211> 75

<212> DNA

<213> Artificial Sequence

<220>

<223> Encodes for therapeutically active peptides with methionine residue at N-terminus

<400> 75
atgtttatgc gttttcctaa cccatggaaa ttagttgaac cacctcaagg ttggtactat 60
ggtctcgagg gtgga 75

<210> 76

<211> 75

<212> DNA

<213> Artificial Sequence

<220>

<223> Encodes for therapeutically active peptides with methionine residue at N-terminus

<400> 76
atggttggtta aagctccaca ttttgaattc ttagctccac ctcatTTTTCA tgaatttcca 60
tttctcgagg gtgga 75

<210> 77

<211> 75

<212> DNA

<213> Artificial Sequence

<220>

<223> Encodes for therapeutically active peptides with methionine residue at N-terminus

<400> 77
atgttttctt atatttgat tgatgaaact ccgtctaaca ttgatcgta tatgctgtgg 60
ctgctcgagg gtgga 75

<210> 78

<211> 74

<212> DNA

<213> Artificial Sequence

<220>

<223> Encodes for therapeutically active peptides with methionine residue at N-terminus

<400> 78
tggttaactt tccgaaagtt ccggaagatg ttgaaccgtg gccgtggtct ctgaaactgt 60
atctcgaggg tggga 74

<210> 79

<211> 75

<212> DNA

<213> Artificial Sequence

<220>

<223> Encodes for therapeutically active peptides with methionine residue at N-terminus

<400> 79
atgacttggc acccgaaaac ttatgaagaa ttgctctgc cgttttttgt tccggaagct 60
ccgctcgagg gtgga 75

<210> 80

<211> 75

<212> DNA

<213> Artificial Sequence

<220>

<223> Encodes for therapeutically active peptides with methionine residue at N-terminus

<400> 80
atgtggcatt ttggtactcc atatattcaa caacaaccag gtgtttattg gttacaagct 60
ccactcgagg gtgga 75

<210> 81

<211> 75

<212> DNA

<213> Artificial Sequence

<220>

<223> Encodes for therapeutically active peptides with methionine residue at N-terminus

<400> 81
atgggttgga attatgggtcc attttttatg aattttccag attctactta ttttttacat 60
gaactcgagg gtgga 75

<210> 82

<211> 75

<212> DNA

<213> Artificial Sequence

<220>

<223> Encodes for therapeutically active peptides with methionine residue at N-terminus

<400> 82
atgtggcgta ttcattctaa accattagat tattctcatg ttgggttttt tccagctgat 60
tttctcgagg gtgga 75

<210> 83

<211> 75

<212> DNA

<213> Artificial Sequence

<220>

<223> Encodes for therapeutically active peptides with methionine residue at N-terminus

<400> 83
atgttttggg atggtaatca accaccagat attttagttg attggccatg gaatccacca 60
gttctcgagg gtgga 75

<210> 84

<211> 75

<212> DNA

<213> Artificial Sequence

<220>

<223> Encodes for therapeutically active peptides with methionine residue at N-terminus

<400> 84
atgttttatt ctttagaatg gttaaaagat cattctgaat tttttcaaac tggtactgaa 60
tggctcgagg gtgga 75

<210> 85

<211> 75

<212> DNA

<213> Artificial Sequence

<220>

<223> Encodes for therapeutically active peptides with methionine residue at N-terminus

<400> 85
atgcaattta tggaattact gaaattcttt aattctccag gtgattcttc tcatcacttc 60
ttactcgagg gtgga 75

<210> 86

<211> 75

<212> DNA

<213> Artificial Sequence

<220>

<223> Encodes for therapeutically active peptides with methionine residue at N-terminus

<400> 86
atgactaatg ttgattggat ttctaataat tgggaacata tgaaatcttt ttttactgaa 60
gatctcgagg gtgga 75

<210> 87

<211> 75

<212> DNA

<213> Artificial Sequence

<220>

<223> Encodes for therapeutically active peptides with methionine residue at N-terminus

<400> 87
atgccaatg aaaaaccata tcaaatgcaa tcttggtttc caccagattg gccagttcca 60
tatctcgagg gtgga 75

<210> 88

<211> 75

<212> DNA

<213> Artificial Sequence

<220>

<223> Encodes for therapeutically active peptides with methionine residue at N-terminus

<400> 88
atgtggtctc atactgaatg ggttccacaa gtttggtgga aaccaccaa tcatttttat 60
gttctcgagg gtgga 75

<210> 89

<211> 75

<212> DNA

<213> Artificial Sequence

<220>

<223> Encodes for therapeutically active peptides with methionine residue at N-terminus

<400> 89
atgtggggtg aatggattaa tgatgctcaa gttcacatgc atgaagggtt tatttctgaa 60
tctctcgagg gtgga 75

<210> 90

<211> 75

<212> DNA

<213> Artificial Sequence

<220>

<223> Encodes for therapeutically active peptides with methionine residue at N-terminus

<400> 90
atggttccat gggaacatga tcatgattta tgggaaatta tttctcaaga ttggcatatt 60
gctctcgagg gtgga 75

<210> 91

<211> 75

<212> DNA

<213> Artificial Sequence

<220>

<223> Encodes for therapeutically active peptides with methionine residue at N-terminus

<400> 91
atgggttttac atttacaaga tccacgtggt tgggtctaatt ttccaccagg tggttttagaa 60
ttactcgagg gtgga 75

<210> 92

<211> 19

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 92

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ile | His | Gly | Cys | Trp | Phe | Thr | Glu | Glu | Gly | Cys | Val | Trp | Gln | Leu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

Glu Gly Gly

<210> 93

<211> 19

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 93

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Tyr | Met | Gln | Cys | Gln | Phe | Ala | Arg | Asp | Gly | Cys | Pro | Gln | Trp | Leu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

Glu Gly Gly

<210> 94

<211> 19

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 94

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Lys | Leu | Gln | Cys | Gln | Tyr | Ser | Glu | Ser | Gly | Cys | Pro | Thr | Ile | Leu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

Glu Gly Gly

<210> 95

<211> 19

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-natural
ly occurring sequence

<400> 95

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Phe | Leu | Gln | Cys | Glu | Ile | Ser | Gly | Gly | Ala | Cys | Pro | Ala | Pro | Leu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

Glu Gly Gly

<210> 96

<211> 19

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-natural
ly occurring sequence

<400> 96

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Lys | Leu | Gln | Cys | Glu | Phe | Ser | Thr | Ser | Gly | Cys | Pro | Asp | Leu | Leu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

Glu Gly Gly

<210> 97

<211> 19

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-natural

ly occurring sequence

<400> 97

Met Lys Leu Gln Cys Glu Phe Ser Thr Gln Gly Cys Pro Asp Leu Leu
1 5 10 15

Glu Gly Gly

<210> 98

<211> 19

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-natural
ly occurring sequence

<400> 98

Met Lys Leu Gln Cys Glu Phe Ser Thr Ser Gly Cys Pro Trp Leu Leu
1 5 10 15

Glu Gly Gly

<210> 99

<211> 19

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-natural
ly occurring sequence

<400> 99

Met Ile Gln Gly Cys Trp Phe Thr Glu Glu Gly Cys Pro Trp Gln Leu
1 5 10 15

Glu Gly Gly

<210> 100

<211> 23

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-natural
ly occurring sequence

<400> 100

Met Ser Phe Asp Cys Asp Asn Pro Trp Gly His Val Leu Gln Ser Cys
1 5 10 15

Phe Gly Phe Leu Glu Gly Gly
20

<210> 101

<211> 23

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-natural
ly occurring sequence

<400> 101

Met Ser Phe Asp Cys Asp Asn Pro Trp Gly His Lys Leu Gln Ser Cys
1 5 10 15

Phe Gly Phe Leu Glu Gly Gly
20

<210> 102

<211> 25

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-natural
ly occurring sequence

<400> 102

Met Thr Gly Tyr Thr Glu Tyr Thr Glu Glu Trp Pro Met Gly Phe Gly
1 5 10 15

Tyr Gln Trp Ser Phe Leu Glu Gly Gly
20 25

<210> 103

<211> 26

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-natural
ly occurring sequence

<400> 103

Met Thr Asp Trp Leu Ser Asp Phe Pro Phe Tyr Glu Gln Tyr Phe Gly
1 5 10 15

Leu Met Pro Pro Gly Leu Glu Gly Gly Gly
20 25

<210> 104

<211> 25

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-natural
ly occurring sequence

<400> 104

Met Phe Met Arg Phe Pro Asn Pro Trp Lys Leu Val Glu Pro Pro Gln
1 5 10 15

Gly Trp Tyr Tyr Gly Leu Glu Gly Gly
20 25

<210> 105

<211> 25

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-natural
ly occurring sequence

<400> 105

Met Val Val Lys Ala Pro His Phe Glu Phe Leu Ala Pro Pro His Phe
1 5 10 15

His Glu Phe Pro Phe Leu Glu Gly Gly
20 25

<210> 106

<211> 25

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-natural
ly occurring sequence

<400> 106

Met Phe Ser Tyr Ile Trp Ile Asp Glu Thr Pro Ser Asn Ile Asp Arg
1 5 10 15

Tyr Met Leu Trp Leu Leu Glu Gly Gly
20 25

<210> 107

<211> 26

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-natural
ly occurring sequence

<400> 107

Met Val Asn Phe Pro Lys Val Pro Glu Asp Val Glu Pro Trp Pro Trp

1 5 10 15

Ser Leu Lys Leu Tyr Leu Glu Gly Gly Gly
20 25

<210> 108

<211> 25

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-natural
ly occurring sequence

<400> 108

Met Thr Trp His Pro Lys Thr Tyr Glu Glu Phe Ala Leu Pro Phe Phe
1 5 10 15

Val Pro Glu Ala Pro Leu Glu Gly Gly
20 25

<210> 109

<211> 25

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-natural
ly occurring sequence

<400> 109

Met Trp His Phe Gly Thr Pro Tyr Ile Gln Gln Gln Pro Gly Val Tyr
1 5 10 15

Trp Leu Gln Ala Pro Leu Glu Gly Gly
20 25

<210> 110

<211> 25

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 110

Met Val Trp Asn Tyr Gly Pro Phe Phe Met Asn Phe Pro Asp Ser Thr
1 5 10 15

Tyr Phe Leu His Glu Leu Glu Gly Gly
20 25

<210> 111

<211> 25

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 111

Met Trp Arg Ile His Ser Lys Pro Leu Asp Tyr Ser His Val Trp Phe
1 5 10 15

Phe Pro Ala Asp Phe Leu Glu Gly Gly
20 25

<210> 112

<211> 25

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 112

Met Phe Trp Asp Gly Asn Gln Pro Pro Asp Ile Leu Val Asp Trp Pro
1 5 10 15

Trp Asn Pro Pro Val Leu Glu Gly Gly
20 25

<210> 113

<211> 25

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-natural
ly occurring sequence

<400> 113

Met Phe Tyr Ser Leu Glu Trp Leu Lys Asp His Ser Glu Phe Phe Gln
1 5 10 15

Thr Val Thr Glu Trp Leu Glu Gly Gly
20 25

<210> 114

<211> 25

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-natural
ly occurring sequence

<400> 114

Met Gln Phe Met Glu Leu Leu Lys Phe Phe Asn Ser Pro Gly Asp Ser
1 5 10 15

Ser His His Phe Leu Leu Glu Gly Gly
20 25

<210> 115

<211> 26

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 115

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| His | Met | Thr | Asn | Val | Asp | Trp | Ile | Ser | Asn | Asn | Trp | Glu | His | Met | Lys |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

| | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ser | Phe | Phe | Thr | Glu | Asp | Leu | Glu | Gly | Gly |
| | | | 20 | | | | | 25 | |

<210> 116

<211> 25

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 116

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Pro | Asn | Glu | Lys | Pro | Tyr | Gln | Met | Gln | Ser | Trp | Phe | Pro | Pro | Asp |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

| | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Trp | Pro | Val | Pro | Tyr | Leu | Glu | Gly | Gly |
| | | | 20 | | | | | 25 |

<210> 117

<211> 25

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 117

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Trp | Ser | His | Thr | Glu | Trp | Val | Pro | Gln | Val | Trp | Trp | Lys | Pro | Pro |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

| | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asn | His | Phe | Tyr | Val | Leu | Glu | Gly | Gly |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|

20

25

<210> 118

<211> 25

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-natural
ly occurring sequence

<400> 118

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Trp | Gly | Glu | Trp | Ile | Asn | Asp | Ala | Gln | Val | His | Met | His | Glu | Gly |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

| | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Phe | Ile | Ser | Glu | Ser | Leu | Glu | Gly | Gly |
| | | | 20 | | | | | 25 |

<210> 119

<211> 25

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-natural
ly occurring sequence

<400> 119

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Val | Pro | Trp | Glu | His | Asp | His | Asp | Leu | Trp | Glu | Ile | Ile | Ser | Gln |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

| | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asp | Trp | His | Ile | Ala | Leu | Glu | Gly | Gly |
| | | | 20 | | | | | 25 |

<210> 120

<211> 25

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 120

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Val | Leu | His | Leu | Gln | Asp | Pro | Arg | Gly | Trp | Ser | Asn | Phe | Pro | Pro |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

| | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Val | Leu | Glu | Leu | Leu | Glu | Gly | Gly |
| | | | 20 | | | | 25 | |

<210> 121

<211> 777

<212> DNA

<213> Artificial Sequence

<220>

<223> Expression vector

<400> 121

| | | | | | | |
|-------------|-------------|------------|------------|-------------|------------|-----|
| tctagatttg | ttttaactaa | ttaaaggagg | aataacatat | ggacaaaact | cacacatgtc | 60 |
| caccttgccc | agctccggaa | ctcctggggg | gaccgtcagt | cttcctcttc | ccccaaaac | 120 |
| ccaaggacac | cctcatgata | tcccggaccc | ctgaggtcac | atgcgtgggtg | gtggacgtga | 180 |
| gccacgaaga | ccctgaggtc | aagttcaact | ggtacgtgga | cggcgtggag | gtgcataatg | 240 |
| ccaagacaaa | gccgcggggag | gagcagtaca | acagcacgta | ccgtgtgggtc | agcgtcctca | 300 |
| ccgtcctgca | ccaggactgg | ctgaatggca | aggagtacaa | gtgcaagggtc | tccaacaaag | 360 |
| ccctcccagc | ccccatcgag | aaaaccatct | caaagccaa | agggcagccc | cgagaaccac | 420 |
| aggtgtacac | cctgccccca | tcccgggatg | agctgaccaa | gaaccagggtc | agcctgacct | 480 |
| gcctgggtcaa | aggcttctat | cccagcgaca | tcgccgtgga | gtgggagagc | aatgggcagc | 540 |
| cggagaacaa | ctacaagacc | acgcctcccg | tgctggactc | cgacggctcc | ttcttctctt | 600 |
| acagcaagct | caccgtggac | aagagcaggt | ggcagcaggg | gaacgtcttc | tcatgctccg | 660 |
| tgatgcatga | ggctctgcac | aaccactaca | cgcagaagag | cctctccctg | tctccgggta | 720 |
| aaggtggagg | tggtgggtgca | cagaaagcgg | ccgcaaaaaa | actcgagtaa | tggatcc | 777 |

<210> 122

<211> 777

<212> DNA

<213> Artificial Sequence

<220>

<223> Expression vector

<400> 122

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gtggaacagg tcgaggcctt gaggaccccc ctggcagtca gaaggagaag ggggggttttg    120
ggttcctgtg ggagtactag agggcctggg gactccagtg tacgcaccac cacctgcact    180
cggtgcttct gggactccag ttcaagttga ccatgcacct gccgcacctc cacgtattac    240
ggttctgttt cggcgccctc ctcgatcatg tgcgtgcat ggcacaccag tcgcaggagt    300
ggcaggacgt ggtcctgacc gacttaccgt tcctcatgtt cacgttccag aggttgtttc    360
gggagggtcg ggggtagctc ttttggtaga ggtttcggtt tcccgtcggg gctcttggtg    420
tccacatgtg ggacgggggt agggccctac tcgactggtt cttggtccag tcggactgga    480
cggaccagtt tccgaagata gggtcgctgt agcggcacct caccctctcg ttacccgtcg    540
gcctcttggt gatgttctgg tgcggagggc acgacctgag gctgccgagg aagaaggaga    600
tgtcgttcga gtggcacctg ttctcgtcca ccgtcgcccc cttgcagaag agtacgaggc    660
actacgtact ccgagacgtg ttggtgatgt gcgtcttctc ggagagggac agaggcccat    720
ttcacctcc accaccaggt gtctttcgcc ggcgtttttt tgagctcatt acctagg      777

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<210> 123

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> Linker for peptide-FC linkage

<400> 123

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Gly Gly Gly Lys Gly Gly Gly Gly
1           5

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<210> 124

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> Linker for peptide-FC linkage

<400> 124

Gly Gly Gly Asn Gly Ser Gly Gly
1 5

<210> 125

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> Linker for peptide-FC linkage

<400> 125

Gly Gly Gly Cys Gly Gly Gly Gly
1 5

<210> 126

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Linker for peptide-FC linkage

<400> 126

Gly Pro Asn Gly Gly
1 5

<210> 127

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide primer for PCR

<400> 127

cggcgcaact atcggtatca agctg

25

<210> 128

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide primer for PCR

<400> 128

catgtaccgt aacactgagt ttcgtc

26

<210> 129

<211> 47

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide used in peptide construction

<400> 129

tatgattcat gggtgttggt ttacagaaga aggttgtgtt tggcaac

47

<210> 130

<211> 49

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide used in peptide construction

<400> 130

tcgagttgcc aaacacaacc ttcttctgta aaccaacaac catgaatca

49

<210> 131

<211> 47

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide used in peptide construction

<400> 131

tatgtatatg caatgtcaat ttgctcgtga tggttgtcca caatggc

47

<210> 132

<211> 49

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide used in peptide construction

<400> 132

tcgagccatt gtggacaacc atcacgagca aattgacatt gcatataca

49

<210> 133

<211> 47

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide used in peptide construction

<400> 133

tatgaaatta caatgtcaat attctgaatc tggttgtcca acaattc

47

<210> 134

<211> 49

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide used in peptide construction

<400> 134
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<210> 135

<211> 47

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide used in peptide construction

<400> 135
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<210> 136

<211> 49

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide used in peptide construction

<400> 136
tcgagtgagg ctggacaagc accaccagaa atttcacatt gtaaaaaca 49

<210> 137

<211> 47

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide used in peptide construction

<400> 137
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<210> 138

<211> 49

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide used in peptide construction

<400> 138

tcgagtaaat ctggacaacc agaagtagaa aattcacatt gtaatttca

49

<210> 139

<211> 47

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide used in peptide construction

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tatgaaatta caatgtgaat tttctactca aggttggtcca gatttac

47

<210> 140

<211> 49

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide used in peptide construction

<400> 140

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49

<210> 141

<211> 47

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide used in peptide construction

<400> 141

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47

<210> 142

<211> 49

<212> DNA

<213> Artificial Sequence

<220>

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<400> 142

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<210> 143

<211> 47

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide used in peptide construction

<400> 143

tatgattcaa gggtgttggt ttactgaaga aggttgtcct tggcaac 47

<210> 144

<211> 49

<212> DNA

<213> Artificial Sequence

<220>

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<400> 144

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<210> 145

<211> 59

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide used in peptide construction

<400> 145
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<210> 146

<211> 61

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide used in peptide construction

<400> 146
tcgagaaaac caaaacaaga ttgtaaaaca tgaccccaag gattatcaca atcaaaagac 60
a 61

<210> 147

<211> 59

<212> DNA

<213> Artificial Sequence

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<223> Oligonucleotide used in peptide construction

<400> 147
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<210> 148

<211> 61

<212> DNA

<213> Artificial Sequence

<220>

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<400> 148
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a 61

<210> 149

<211> 65

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide used in peptide construction

<400> 149
tatgacaggt tatacagaat atacagaaga atggccaatg ggttttgggtt atcaatggtc 60
cttttc 65

<210> 150

<211> 67

<212> DNA

<213> Artificial Sequence

<220>

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<400> 150
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cctgtca 67

<210> 151

<211> 65

<212> DNA

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<220>

<223> Oligonucleotide used in peptide construction

<400> 151
tatgacagat tggttatctg attttccatt ctatgaacaa tactttgggtt taatgccacc 60
tggtc 65

<210> 152

<211> 67

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide used in peptide construction

<400> 152

tcgagaccag gtggcattaa accaaagtat tgttcataga atggaaaatc agataaccaa 60

tctgtca 67

<210> 153

<211> 65

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide used in peptide construction

<400> 153

tatgtttatg cgttttccta acccatggaa attagttgaa ccacctcaag gttggtacta 60

tggtc 65

<210> 154

<211> 67

<212> DNA

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<220>

<223> Oligonucleotide used in peptide construction

<400> 154

tcgagaccat agtaccaacc ttgaggtggt tcaactaatt tccatggggt aggaaaacgc 60

ataaaca 67

<210> 155

<211> 65

<212> DNA

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<223> Oligonucleotide used in peptide construction

<400> 155
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atttc 65

<210> 156

<211> 67

<212> DNA

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acaacca 67

<210> 157

<211> 65

<212> DNA

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<223> Oligonucleotide used in peptide construction

<400> 157
tatgttttct tatatttgga ttgatgaaac tccgtctaac attgatcggt atatgctgtg 60
gctgc 65

<210> 158

<211> 67

<212> DNA

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<223> Oligonucleotide used in peptide construction

<400> 158

tcgagcagcc acagcatata acgatcaatg ttagacggag tttcatcaat ccaaataataa 60
gaaaaca 67

<210> 159

<211> 65

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<223> Oligonucleotide used in peptide construction

<400> 159

tatgggtaac ttccgaaag ttccggaaga tggtgaaccg tggccgtggt ctctgaaact 60
gtatc 65

<210> 160

<211> 67

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<220>

<223> Oligonucleotide used in peptide construction

<400> 160

tcgagataca gtttcagaga ccacggccac ggttcaacat cttccggaac tttcggaag 60
ttaacca 67

<210> 161

<211> 65

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide used in peptide construction

<400> 161
tatgacttgg caccgaaaa cttatgaaga atttgctctg ccgttttttg ttccggaagc 60
tccgc 65

<210> 162

<211> 67

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide used in peptide construction

<400> 162
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caagtca 67

<210> 163

<211> 65

<212> DNA

<213> Artificial Sequence

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<400> 163
tatgtggcat tttggtactc catatattca acaacaacca ggtgtttatt ggttacaagc 60
tccac 65

<210> 164

<211> 67

<212> DNA

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<400> 164
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tgccaca

67

<210> 165

<211> 65

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide used in peptide construction

<400> 165

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tgaac 65

<210> 166

<211> 67

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide used in peptide construction

<400> 166

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caaacca 67

<210> 167

<211> 65

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide used in peptide construction

<400> 167

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ttttc 65

<210> 168

<211> 67

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide used in peptide construction

<400> 168

tcgagaaaat cagctggaaa aaaccaaaca tgagaataat ctaatgggtt agaatgaata 60

cgccaca 67

<210> 169

<211> 65

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide used in peptide construction

<400> 169

tatgttttgg gatggtaatc aaccaccaga tatttttagtt gattggccat ggaatccacc 60

agttc 65

<210> 170

<211> 67

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide used in peptide construction

<400> 170

tcgagaactg gtggattcca tggccaatca actaaaatat ctggtggttg attaccatcc 60

caaaaca 67

<210> 171

<211> 65

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide used in peptide construction

<400> 171
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atggc 65

<210> 172

<211> 67

<212> DNA

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<220>

<223> Oligonucleotide used in peptide construction

<400> 172
tcgagccatt cagtaacagt ttgaaaaaat tcagaatgat cttttaacca ttctaaagaa 60
taaaaca 67

<210> 173

<211> 65

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide used in peptide construction

<400> 173
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cttac 65

<210> 174

<211> 67

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide used in peptide construction

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tcgagtaaga agtgatgaga agaatacacct ggagaattaa agaatttcag taattccata 60

aattgca 67

<210> 175

<211> 65

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide used in peptide construction

<400> 175

tatgactaat gttgattgga tttctaataa ttgggaacat atgaaatctt tttttactga 60

agatc 65

<210> 176

<211> 67

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide used in peptide construction

<400> 176

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ttagtca 67

<210> 177

<211> 65

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide used in peptide construction

<400> 177

tatgccaat gaaaaacat atcaaagca atcttggtt ccaccagatt ggccagttcc 60

atatc 65

<210> 178

<211> 67

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide used in peptide construction

<400> 178

tcgagatat gaactggcca atctgggtgga aaccaagatt gcatttgata tggtttttca 60

tttgga 67

<210> 179

<211> 65

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide used in peptide construction

<400> 179

tatgtgtgt cactactgaat ggggtccaca agtttggtgg aaaccaccaa atcattttta 60

tggttc 65

<210> 180

<211> 67

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide used in peptide construction

<400> 180

tcgagaacat aaaaatgatt tgggtggttc caccaaactt gtggaacca ttcagtatga 60

gaccaca

67

<210> 181

<211> 65

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide used in peptide construction

<400> 181

tatgggtcca tgggaacatg atcatgattt atgggaaatt atttctcaag attggcatat

60

tgctc

65

<210> 182

<211> 67

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide used in peptide construction

<400> 182

tcgagagcaa tatgccaatc ttgagaaata atttcccata aatcatgatc atgttcccat

60

ggaacca

67

<210> 183

<211> 65

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide used in peptide construction

<400> 183

tatggtttta catttacaag atccacgtgg ttggtctaatt tttccaccag gtgtttttaga

60

attac

65

<210> 184

<211> 67

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide used in peptide construction

<400> 184

tcgagtaatt ctaaaacacc tgggtggaaaa ttagaccaac cacgtggatc ttgtaaattgt 60

aaaacca 67

<210> 185

<211> 65

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide used in peptide construction

<400> 185

tatgtgggggt gaatggatta atgatgctca agttcacatg catgaagggtt ttattttctga 60

atctc 65

<210> 186

<211> 67

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide used in peptide construction

<400> 186

tcgagagatt cagaaaataaa accttcatgc atgtgaactt gagcatcatt aatccattca 60

ccccaca 67

<210> 187

<211> 67

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide primer for PCR

<400> 187
acaaacaaac atatgggtgc acagaaagcg gccgcaaaaa aactcgaggg tggaggcggt 60
ggggaca 67

<210> 188

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide primer for PCR

<400> 188
ggtcattact ggaccggatc 20

<210> 189

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide primer used in PCR

<400> 189
cgtacagggtt tacgcaagaa aatgg 25

<210> 190

<211> 66

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide primer used in PCR

<400> 190
tttgttggat ccattactcg agtttttttg cggccgcttt ctgtgcacca ccacctccac 60
ctttac 66

<210> 191

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide primer used in PCR

<400> 191
caaacgaatg gaccttcatt aaagccaga 29

<210> 192

<211> 42

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide primer used in PCR

<400> 192
ggtggtgcgg ccgcactcga gactgttgaa agttgttttag ca 42

<210> 193

<211> 43

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide primer used in PCR

<400> 193
aacacaaaag tgcacagggt ggaggtggtg gtgcggccgc act 43

<210> 194

<211> 76

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide for library preparation

<220>

<221> misc_feature

<222> (1)..(2)

<223> N in positions 1-2 can be any nucleotide A, G, C or T

<220>

<221> misc_feature

<222> (4)..(5)

<223> N in positions 4-5 can be any nucleotide A, G, C or T

<220>

<221> misc_feature

<222> (7)..(8)

<223> N in positions 7-8 can be any nucleotide A, G, C or T

<220>

<221> misc_feature

<222> (10)..(11)

<223> N in positions 10-11 can be any nucleotide A, G, C or T

<220>

<221> misc_feature

<222> (13)..(14)

<223> N in positions 13-14 can be any nucleotide A, G, C or T

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<222> (16)..(17)

<223> N in positions 16-17 can be any nucleotide A, G, C or T

<220>

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<222> (19)..(20)

<223> N in positions 19-20 can be any nucleotide A, G, C or T

<220>

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<222> (28)..(29)

<223> N in positions 28-29 can be any nucleotide A, G, C or T

<220>

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<222> (40)..(41)

<223> N in positions 40-41 can be any nucleotide A, G, C or T

<220>

<221> misc_feature

<222> (43)..(44)

<223> N in positions 43-44 can be any nucleotide A, G, C or T

<220>

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<222> (46)..(47)

<223> N in positions 46-47 can be any nucleotide A, G, C or T

<220>

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<222> (49)..(50)

<223> N in positions 49-50 can be any nucleotide A, G, C or T

<220>

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<222> (52)..(53)

<223> N in positions 52-53 can be any nucleotide A, G, C or T

<220>

<221> misc_feature

<222> (55)..(56)

<223> N in positions 55-56 can be any nucleotide A, G, C or T

<220>

<221> misc_feature

<222> (58)..(59)

<223> N in positions 58-59 can be any nucleotide A, G, C or T

<220>

<221> misc_feature

<223> K in positions 3, 6, 9, 12, 15, 18, 21, 30, 42, 45, 48, 51, 54, 57, and 60 represents an equal representation of nucleotides G and T

<400> 194
nnknnknnkn nknnknnknn kctgcagnnk sartwtagn nknnknnknn knnknnknnk 60

cattctctcg agatca 76

<210> 195

<211> 91

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide for library preparation

<220>

<221> misc_feature

<222> (16)..(17)

<223> N in positions 16-17 can be any nucleotide A, G, C or T

<220>

<221> misc_feature

<222> (19)..(20)

<223> N in positions 19-20 can be any nucleotide A, G, C or T

<220>

<221> misc_feature

<222> (22)..(23)

<223> N in positions 22-23 can be any nucleotide A, G, C or T

<220>

<221> misc_feature

<222> (34)..(35)

<223> N in positions 34-35 can be any nucleotide A, G, C or T

<220>

<221> misc_feature

<222> (55)..(56)

<223> N in positions 55-56 can be any nucleotide A, G, C or T

<220>

<221> misc_feature

<222> (67)..(68)

<223> N in positions 67-68 can be any nucleotide A, G, C or T

<220>

<221> misc_feature

<222> (70)..(71)

<223> N in positions 70-71 can be any nucleotide A, G, C or T

<220>

<221> misc_feature

<222> (73)..(74)

<223> N in positions 73-74 can be any nucleotide A, G, C or T

<220>

<221> misc_feature

<223> K in positions 18, 21, 24, 36, 57 69, 72 and 75 represents an equal representation of nucleotides G and T

<400> 195

cacagtgcac agggtnnknn knnkaaactg cagnnkgaat ttagcaccag cggcnnkccg 60

gatctgnkn nknnkcattc tctcgagatc a 91

<210> 196

<211> 91

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide for library preparation

<220>

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<222> (16)..(17)

<223> N in positions 16-17 can be any nucleotide A, G, C or T

<220>

<221> misc_feature

<222> (19)..(20)

<223> N in positions 19-20 can be any nucleotide A, G, C or T

<220>

<221> misc_feature

<222> (22)..(23)

<223> N in positions 22-23 can be any nucleotide A, G, C or T

<220>

<221> misc_feature

<222> (25)..(26)

<223> N in positions 25-26 can be any nucleotide A, G, C or T

<220>

<221> misc_feature

<222> (28)..(29)

<223> N in positions 28-29 can be any nucleotide A, G, C or T

<220>

<221> misc_feature

<222> (31)..(32)

<223> N in positions 31-32 can be any nucleotide A, G, C or T

<220>

<221> misc_feature

<222> (34)..(35)

<223> N in positions 34-35 can be any nucleotide A, G, C or T

<220>

<221> misc_feature

<222> (55)..(56)

<223> N in positions 55-56 can be any nucleotide A, G, C or T

<220>

<221> misc_feature

<222> (58)..(59)

<223> N in positions 58-59 can be any nucleotide A, G, C or T

<220>

<221> misc_feature

<222> (61)..(62)

<223> N in positions 61-62 can be any nucleotide A, G, C or T

<220>

<221> misc_feature

<222> (64)..(65)

<223> N in positions 64-65 can be any nucleotide A, G, C or T

<220>

<221> misc_feature

<222> (67)..(68)

<223> N in positions 67-68 can be any nucleotide A, G, C or T

<220>

<221> misc_feature

<222> (70)..(71)

<223> N in positions 70-71 can be any nucleotide A, G, C or T

<220>

<221> misc_feature

<222> (73)..(74)

<223> N in positions 73-74 can be any nucleotide A, G, C or T

<220>

<221> misc_feature

<223> K in positions 18, 21, 24, 27, 30, 33, 36, 39, 42, 45, 48, 51, 54, 57, 60, 63, 66, 69, 72 and 75 represents an equal representatio

n of nucleotides G and T

<400> 196
 cacagtgcac agggtnnnknn knnknnknnk nnknnktgkt tkackgakga kggknnknnk 60
 nnknnknnkn nknnkcattc tctcgagatc a 91

<210> 197

<211> 97

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide for library preparation

<220>

<221> misc_feature

<222> (16)..(17)

<223> N in positions 16-17 can be any nucleotide A, G, C or T

<220>

<221> misc_feature

<222> (79)..(80)

<223> N in positions 79-80 can be any nucleotide A, G, C or T

<220>

<221> misc_feature

<223> K in positions 18, 21, 24, 27, 30, 33, 36, 39, 42, 45, 48, 51, 54, 57, 60, 63, 66, 69, 72, 75, 78 and 81 represents an equal representation of nucleotides G and T

<400> 197
 cacagtgcac agggtnnkttt ktgkgakggk aakcakcckc ckgakatkttt kgtkgaktgk 60
 ccktgkaakc ckckggtknn kcattctctc gagatca 97

<210> 198

<211> 97

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide for library preparation

<220>

<221> misc_feature

<222> (16)..(17)

<223> N in positions 16-17 can be any nucleotide A, G, C or T

<220>

<221> misc_feature

<222> (79)..(80)

<223> N in positions 79-80 can be any nucleotide A, G, C or T

<220>

<221> misc_feature

<223> K in positions 18, 21, 24, 27, 30, 33, 36, 39, 42, 45, 48, 51, 54, 57, 60, 63, 66, 69, 72, 75, 78 and 81 represents an equal representation of nucleotides G and T

<400> 198

cacagtgcac agggtnnkac kgaktgkctk agkgakttkc ckttktakga kcaktakttk 60

ggkctkatkc ckckggknn kcattctctc gagatca 97

<210> 199

<211> 91

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide for library preparation

<220>

<221> misc_feature

<222> (16)..(17)

<223> N in positions 16-17 can be any nucleotide A, G, C or T

<220>

<221> misc_feature

<222> (19)..(20)

<223> N in positions 19-20 can be any nucleotide A, G, C or T

<220>

<221> misc_feature

<222> (22)..(23)

<223> N in positions 22-23 can be any nucleotide A, G, C or T

<220>

<221> misc_feature

<222> (34)..(35)

<223> N in positions 34-35 can be any nucleotide A, G, C or T

<220>

<221> misc_feature

<222> (55)..(56)

<223> N in positions 55-56 can be any nucleotide A, G, C or T

<220>

<221> misc_feature

<222> (67)..(68)

<223> N in positions 67-68 can be any nucleotide A, G, C or T

<220>

<221> misc_feature

<222> (70)..(71)

<223> N in positions 70-71 can be any nucleotide A, G, C or T

<220>

<221> misc_feature

<222> (73)..(74)

<223> N in positions 73-74 can be any nucleotide A, G, C or T

<220>

<221> misc_feature

<223> K in positions 18, 21, 24, 27, 30, 33, 36, 39, 42, 45, 48, 51, 54, 57, 60, 63, 66, 69, 72 and 75 represents an equal representation of nucleotides G and T

<400> 199

cacagtgcac agggtnnkn knnkaakctk caknnkgakt tktckacktc kggknnkceck 60

gakctknnkn nknnkcattc tctcgagatc a 91

<210> 200

<211> 15

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide primer for PCR

<400> 200

cacagtgcac aggggt 15

<210> 201

<211> 16

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide primer for PCR

<400> 201

tgatctcgag agaattg 16

<210> 202

<211> 22

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 202

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Gln | Pro | Thr | Asp | Gln | Leu | Gly | Asp | Trp | Met | Leu | Asn | Tyr | Phe | Arg |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

| | | | | | |
|-----|-----|-----|-----|-----|-----|
| Leu | Val | Pro | Pro | Gly | Thr |
| | | | 20 | | |

<210> 203

<211> 23

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 203

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Tyr | Leu | Asp | Glu | Trp | Gln | Trp | Pro | Pro | Asp | Val | Phe | Val | Glu | Trp |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

| | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|
| Pro | Trp | Lys | Val | Ser | Val | Asp |
| | | | 20 | | | |

<210> 204

<211> 22

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 204

Met Tyr Gln Lys Leu Gln Cys Glu Leu Ser Thr Ser Gly Cys Pro Asp
1 5 10 15

Leu Trp Arg Ala Leu Glu
20

<210> 205

<211> 26

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 205

Ala Gln Leu Gln Ala Leu Leu Arg Glu Leu Pro Leu Tyr Glu Gln Phe
1 5 10 15

Phe Arg Leu Met Pro Pro Gly Tyr Leu Glu
20 25

<210> 206

<211> 26

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 206

Ala Gln Val Thr Asn Ile Leu Ser Gln Leu Pro Leu Trp Gln Gln Trp
1 5 10 15

Leu Gly Leu Met Pro Pro Gly Val Leu Glu
20 25

<210> 207

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 207

Met Ala Met Ala Gln Leu Gln Cys Glu Phe Ser Val Gln Gly Cys Pro
1 5 10 15

Ser Phe Val Leu Glu
20

<210> 208

<211> 23

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 208

Met Leu His Asn Thr Leu Gln Cys Glu Phe Ser Thr Ser Gly Cys Pro
1 5 10 15

Asp Leu Pro Leu Gln Leu Glu
20

<210> 209

<211> 23

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 209

Met Trp Gly Gln Lys Leu Gln Cys Glu Phe Ser Thr Ser Gly Cys Pro
1 5 10 15

Asp Leu Pro Lys Ala Leu Glu
20

<210> 210

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 210

Met Ile Asp Trp Leu Ser Gln Asn Arg Leu Phe Glu Gln Tyr Phe Glu
1 5 10 15

Leu Ile Pro Pro Gly
20

<210> 211

<211> 23

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 211

Gln Pro Thr Asp Gln Leu Gly Asp Trp Met Leu Asn Tyr Phe Arg Leu
1 5 10 15

Val Pro Pro Gly Thr Leu Glu
20

<210> 212

<211> 26

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 212

Ala Gln Leu Ala Asp Leu Leu Ala Gln Leu Pro Met Trp Glu Gln Tyr
1 5 10 15

Leu Gly Leu Thr Pro Pro Ser Ser Leu Glu
20 25

<210> 213

<211> 26

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 213

Ala Gln Leu Arg Glu Leu Leu Ser Asp Leu Pro Met Trp Glu Gln Tyr
1 5 10 15

Phe Arg Leu Met Pro Pro Gly Tyr Leu Glu
20 25

<210> 214

<211> 23

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 214

Met Val Gln Arg Lys Leu Gln Cys Glu Phe Ser Thr Ser Gly Cys Pro

1 5 10 15

Asp Leu Thr Leu Leu Leu Glu
 20

<210> 215

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 215

Met Gly Pro Leu Val Leu Gln Cys Glu Phe Ser Gln Gly Gly Cys Pro
1 5 10 15

Thr Phe Leu Leu Glu
 20

<210> 216

<211> 24

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 216

Ala Glu Gln Ser Gln Lys Leu Gln Cys Glu Phe Ser Thr Ser Gly Cys
1 5 10 15

Pro Asp Leu Pro Gln Met Leu Glu
 20

<210> 217

<211> 25

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 217

Met His Met Ser Asp Val Tyr Trp Pro Pro Asp Val Phe Val Glu Trp
1 5 10 15

Pro Trp Val Pro Gln Val Pro Leu Glu
20 25

<210> 218

<211> 25

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 218

Met Trp Val Gly Lys Gly Arg Leu Gln Cys Glu Ile Val Gly Gln Cys
1 5 10 15

Pro Gln Asn Pro Arg Trp Leu Leu Glu
20 25

<210> 219

<211> 24

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 219

Ala Gln Pro Thr Asp Gln Leu Gly Asp Trp Met Leu Asn Tyr Phe Arg
1 5 10 15

Leu Val Pro Pro Gly Thr Leu Glu
20

<210> 220

<211> 25

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 220

Met Pro Glu Trp Lys Gly Tyr Trp Pro Pro Glu Val Phe Ile Glu Trp
1 5 10 15

Pro Trp Ser Pro Pro Val Gln Leu Glu
20 25

<210> 221

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 221

Pro Thr Asp Gln Leu Gly Asp Trp Met Leu Asn Tyr Phe Arg Leu Val
1 5 10 15

Pro Pro Gly Thr
20

<210> 222

<211> 23

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 222

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ile | Pro | Gly | Lys | Leu | Gln | Cys | Glu | Leu | Ser | Ser | Ser | Gly | Cys | Pro |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

| | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|
| Asn | Leu | Gln | Ala | Met | Leu | Glu |
| | | | 20 | | | |

<210> 223

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 223

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Asn | Arg | Met | Gln | Leu | Gln | Cys | Glu | Phe | Ser | Gln | Ala | Gly | Cys | Pro |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

| | | | | |
|-----|-----|-----|-----|-----|
| Val | Trp | Ala | Leu | Glu |
| | | | 20 | |

<210> 224

<211> 24

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 224

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Gln | Gln | Ser | Gln | Lys | Leu | Gln | Cys | Glu | Phe | Ser | Thr | Ser | Gly | Cys |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

| | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Asp | Leu | Pro | Leu | Gln | Leu | Glu |
|-----|-----|-----|-----|-----|-----|-----|-----|

20

<210> 225

<211> 26

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 225

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Gln | Gln | Thr | Glu | Trp | Leu | Trp | Ser | Leu | Pro | Leu | Val | Glu | Gln | Tyr |
| 1 | | | | 5 | | | | 10 | | | | | 15 | | |

| | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Phe | Ser | Leu | Val | Pro | Pro | Gly | Tyr | Leu | Glu |
| | | | 20 | | | | | 25 | |

<210> 226

<211> 26

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 226

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Gln | Thr | Gln | Glu | Trp | Met | Met | Asn | Leu | Pro | Leu | Val | Glu | Gln | Tyr |
| 1 | | | | 5 | | | | 10 | | | | | 15 | | |

| | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Phe | Gly | Leu | Thr | Pro | Pro | Gly | Met | Leu | Glu |
| | | | 20 | | | | | 25 | |

<210> 227

<211> 19

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 227

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Thr | Asp | Gln | Leu | Gly | Asp | Trp | Met | Leu | Asn | Tyr | Phe | Arg | Leu | Val |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

Pro Pro Gly

<210> 228

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 228

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Asp | Glu | Trp | Gln | Trp | Pro | Pro | Asp | Val | Phe | Val | Glu | Trp | Pro | Trp |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

| | | | | |
|-----|-----|-----|-----|-----|
| Lys | Val | Ser | Val | Asp |
| | | | 20 | |

<210> 229

<211> 25

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 229

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ser | Trp | Gln | Glu | Gly | Met | Trp | Pro | Pro | Glu | Val | Phe | Val | Glu | Trp |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

| | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Trp | Thr | Ala | His | Asp | Trp | Leu | Glu |
| | | | 20 | | | | | 25 |

<210> 230

<211> 26

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 230

Ala Gln Gln Gly Met Trp Pro Gly Ala Met Ser Leu Leu Glu Gln Tyr
1 5 10 15

Phe Ala Leu Thr Pro Pro Gly Leu Leu Glu
20 25

<210> 231

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 231

Asp Gln Leu Gly Asp Trp Met Leu Asn Tyr Phe Arg Leu Val Pro Pro
1 5 10 15

Gly Thr

<210> 232

<211> 22

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-natural

lly occurring sequence

<400> 232

Met Ile Asp Trp Leu Ser Gln Asn Arg Leu Phe Glu Gln Tyr Phe Glu
1 5 10 15

Leu Ile Pro Pro Gly Val
20

<210> 233

<211> 23

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-natural
lly occurring sequence

<400> 233

Met Ser Gly Asp Lys Leu Gln Cys Glu Phe Ser Thr Ser Gly Cys Pro
1 5 10 15

Asp Leu Pro Ile Ser Leu Glu
20

<210> 234

<211> 23

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-natural
lly occurring sequence

<400> 234

Met Gln Gln Gly Lys Leu Gln Cys Glu Leu Ser Thr Ala Gly Cys Pro
1 5 10 15

Glu Leu Leu Leu Pro Leu Glu
20

<210> 235

<211> 24

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 235

Ala Gln Gln Ser Gln Lys Leu Gln Cys Glu Phe Ser Thr Ser Gly Cys
1 5 10 15

Pro Asp Leu Pro Leu Met Leu Glu
20

<210> 236

<211> 26

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 236

Ala Gln Asn Pro Gly His Leu Leu Asp Leu Pro Leu Phe Tyr Gln Tyr
1 5 10 15

Phe Gln Leu Met Pro Pro Gly Ile Leu Glu
20 25

<210> 237

<211> 22

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 237

Pro Thr Asp Gln Leu Gly Asp Trp Met Leu Asn Tyr Phe Arg Leu Val
1 5 10 15

Pro Pro Gly Thr Leu Glu
20

<210> 238

<211> 22

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 238

Gln Thr Asp Trp Arg Trp Asp Leu Pro Phe Val Glu Asp Tyr Phe Arg
1 5 10 15

Leu Arg Pro Pro Gly Val
20

<210> 239

<211> 26

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 239

Ala Gln Met Ile Asp Trp Leu Ser Gln Asn Arg Leu Phe Glu Gln Tyr
1 5 10 15

Phe Glu Leu Ile Pro Pro Gly Val Leu Glu
20 25

<210> 240

<211> 23

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 240

Met Gln Leu Trp Asp Gly Lys Trp Pro Pro Glu Val Phe Val Glu Trp
1 5 10 15

Pro Trp Asn Pro Pro Val Gln
20

<210> 241

<211> 24

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 241

Ala Gln Gln Ser Gln Lys Leu Gln Cys Glu Phe Ser Thr Ser Gly Cys
1 5 10 15

Pro Asp Leu Pro Gln Gln Leu Glu
20

<210> 242

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 242

Met Val Glu Trp Gln Trp Cys Trp Phe Thr Glu Glu Gly Cys Pro Leu

1 5 10 15

Pro Leu Arg Leu Glu
 20

<210> 243

<211> 25

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 243

Met Trp Leu Phe Glu Gly Gln His Pro Pro Glu Val Leu Val Glu Trp
1 5 10 15

Pro Trp Val Trp Pro Val Ala Leu Glu
 20 25

<210> 244

<211> 25

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 244

Met Arg Tyr Phe Glu Gly Asn Trp Pro Leu Asp Val Phe Val Asp Trp
1 5 10 15

Pro Trp Asn Pro Thr Val Asp Leu Glu
 20 25

<210> 245

<211> 22

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 245

Met Gln Val Lys Leu Gln Cys Glu Phe Ser Thr Ser Gly Cys Pro Glu
1 5 10 15

Met His Arg Ile Leu Glu
20

<210> 246

<211> 23

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 246

Met Gln Leu Gly Lys Leu Gln Cys Glu Leu Ser Thr Ala Gly Cys Pro
1 5 10 15

Asp Leu Pro Tyr Val Leu Glu
20

<210> 247

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 247

Met Tyr Leu Asp Glu Trp Gln Trp Pro Pro Asp Val Phe Val Glu Trp
1 5 10 15

Pro Trp Lys Val Ser
20

<210> 248

<211> 22

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 248

Met Thr Val Lys Leu Gln Cys Glu Phe Ser Thr Ser Gly Cys Pro Asp
1 5 10 15

Leu Ala Trp Gln Leu Glu
20

<210> 249

<211> 23

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 249

Met Phe Arg Tyr Gln Leu Gln Cys Glu Leu Ser Ser Ser Gly Cys Pro
1 5 10 15

Asp Leu Asn Asn Ile Leu Glu
20

<210> 250

<211> 26

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 250

Ala Gln Ala Arg Glu Trp Gln Thr Glu Leu Pro Phe Phe Glu Gln Tyr
1 5 10 15

Phe Ala Leu Met Pro Pro Gly Val Leu Glu
20 25

<210> 251

<211> 22

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 251

Gln Thr Asp Trp Leu Ser Asp Leu Pro Leu Leu Glu Gln Tyr Phe Arg
1 5 10 15

Leu Met Pro Pro Gly Val
20

<210> 252

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 252

Met Ser Gln Ala Pro Leu Gln Cys Glu Tyr Ser Ser Ser Gly Cys Pro
1 5 10 15

Leu Trp Gln Leu Glu

20

<210> 253

<211> 26

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 253

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Gln | Leu | Thr | Asp | Gln | Leu | Arg | Leu | Leu | Pro | Leu | Tyr | Leu | Gln | Tyr |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

| | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Phe | Ser | Leu | Ile | Pro | Pro | Val | Thr | Leu | Glu |
| | | | 20 | | | | | 25 | |

<210> 254

<211> 25

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 254

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Gln | Ser | Trp | Asp | Val | Lys | Trp | Pro | Pro | Asp | Val | Phe | Val | Glu | Trp |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

| | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Tyr | Asn | Pro | Pro | Ile | Gln | Leu | Glu |
| | | | 20 | | | | | 25 |

<210> 255

<211> 23

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 255

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ile | Lys | Gln | Lys | Leu | Gln | Cys | Glu | Phe | Ser | Thr | Ser | Gly | Cys | Pro |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

| | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|
| Asp | Leu | Trp | Met | Ser | Leu | Glu |
| | | | 20 | | | |

<210> 256

<211> 23

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 256

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | His | Glu | Gln | Lys | Leu | Gln | Cys | Glu | Leu | Ser | Thr | Ser | Gly | Cys | Pro |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

| | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|
| Asp | Leu | Val | Gln | Met | Leu | Glu |
| | | | 20 | | | |

<210> 257

<211> 22

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 257

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Gln | Phe | Lys | Leu | Gln | Cys | Glu | Phe | Ser | Thr | Ser | Gly | Cys | Pro | Asp |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

| | | | | | |
|-----|-----|-----|-----|-----|-----|
| Leu | Arg | His | Pro | Leu | Glu |
| | | | 20 | | |

<210> 258

<211> 26

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 258

Ala Gln Met Gln Glu Leu Leu Arg Glu Leu Pro Leu Tyr Glu Gln Tyr
1 5 10 15

Met Ala Leu Met Pro Pro Gly Met Leu Glu
20 25

<210> 259

<211> 24

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 259

Ala Gln Gln Gln Gln Lys Leu Gln Cys Glu Phe Ser Thr Ser Gly Cys
1 5 10 15

Pro Asp Leu Pro Leu Met Leu Glu
20

<210> 260

<211> 26

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-natural

lly occurring sequence

<400> 260

Ala Gln Gln Thr Asn Trp Cys Met Gly Ile Pro Tyr Cys Glu Gln Tyr
1 5 10 15

Phe Gly Leu Ser Pro His Gly Ile Leu Glu
20 25

<210> 261

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-natural
lly occurring sequence

<400> 261

Met Ala Ser Leu Thr Leu Gln Cys Glu Tyr Ser Gly Gln Gly Cys Pro
1 5 10 15

Lys Trp Pro Leu Glu
20

<210> 262

<211> 26

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-natural
lly occurring sequence

<400> 262

Ala Gln Leu Ala Glu Trp Leu Gln Gln Ile Pro Leu Tyr Glu Gln Tyr
1 5 10 15

Phe Gly Leu Met Pro Pro Asp Leu Leu Glu
20 25

<210> 263

<211> 25

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 263

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Glu | Leu | Ser | Ala | Arg | Asn | Trp | Pro | Pro | Glu | Ile | Phe | Glu | Asp | Trp |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

| | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Trp | Gln | Leu | Pro | Val | Asp | Leu | Glu |
| | | 20 | | | | | | 25 |

<210> 264

<211> 23

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 264

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Trp | Met | Thr | Lys | Leu | Gln | Cys | Glu | Phe | Ser | Ser | His | Gly | Cys | Pro |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

| | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|
| Gln | Leu | Thr | Ser | Met | Leu | Glu |
| | | | 20 | | | |

<210> 265

<211> 22

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 265

Ala Glu Val Glu Trp Gln Trp Cys Trp Phe Thr Glu Glu Gly Cys Pro
1 5 10 15

Leu Pro Leu Arg Leu Glu
20

<210> 266

<211> 25

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 266

Met Tyr Leu Asp Glu Trp Gln Trp Pro Pro Asp Val Phe Val Glu Trp
1 5 10 15

Pro Trp Lys Val Ser Val Asp Leu Glu
20 25

<210> 267

<211> 23

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 267

Met Gln Ser Asn Lys Leu Gln Cys Glu Phe Ser Thr Ser Gly Cys Pro
1 5 10 15

Glu Leu Leu Asp Leu Leu Glu
20

<210> 268

<211> 23

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 268

Met Asn Val Gly Lys Leu Gln Cys Glu Leu Ser Thr Trp Gly Cys Pro
1 5 10 15

Val Pro Val Gln Gly Leu Glu
20

<210> 269

<211> 25

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 269

Met Tyr Leu Trp Glu Gly Ile Trp Pro Ala Glu Val Phe Arg Glu Trp
1 5 10 15

Pro Trp Lys Pro Pro Asn Arg Leu Glu
20 25

<210> 270

<211> 25

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 270

Met Leu Phe Trp Gln Gly Asn Pro Pro Pro Asp Val Phe Val Glu Trp

1 5 10 15

Pro Trp Gln Leu Pro Ala Ser Leu Glu
 20 25

<210> 271

<211> 26

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 271

Ala Gln Asn Gly Asp Trp Met Arg Gly Leu Pro Phe Leu Glu Gln Tyr
1 5 10 15

Phe Gln Leu Leu Pro Pro Gly Val Leu Glu
 20 25

<210> 272

<211> 23

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 272

Ala Gln Pro Thr Asp Gln Leu Gly Asp Trp Met Leu Asn Tyr Phe Arg
1 5 10 15

Leu Val Pro Pro Gly Thr Leu
 20

<210> 273

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<223> Therapeutically active peptide of randomly generated, non-naturally occurring sequence

<400> 273

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Trp | Asp | Met | Cys | His | Phe | Ser | His | Ala | Ala | Lys | Leu | Gln | Ser | Cys | Phe |
| 1 | | | | 5 | | | | 10 | | | | | | 15 | |

Pro His

<210> 274

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Consensus sequences from therapeutically active peptide of randomly generated, non-naturally occurring sequence

<220>

<221> misc_feature

<222> (1)..(1)

<223> X in position 1 is equal to any amino acid.

<220>

<221> misc_feature

<222> (10)..(12)

<223> X in positions 10, 11 and 12 is equal to any amino acid.

<220>

<221> misc_feature

<222> (4)..(4)

<223> X at position 4 is equal to F or W.

<220>

<221> misc_feature

<222> (5)..(5)

<223> X at position 5 is equal to S or T.

<400> 274

| | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Xaa | Cys | Trp | Xaa | Xaa | Glu | Glu | Gly | Cys | Xaa | Xaa | Xaa |
| 1 | | | | 5 | | | | | 10 | | |

<210> 275

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> Consensus sequences from therapeutically active peptide of randomly generated, non-naturally occurring sequence

<220>

<221> MISC_FEATURE

<222> (4)..(4)

<223> X in position 4 is equal to any amino acids.

<220>

<221> MISC_FEATURE

<222> (5)..(5)

<223> X at position 5 is equal to F or Y.

<220>

<221> MISC_FEATURE

<222> (7)..(8)

<223> X in positions 7 and 8 is equal to any amino acid.

1 5 10 15

Xaa Xaa

<210> 277

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> Peptide of randomly generated, non-naturally occurring sequence

<400> 277

Ile His Gly Cys Trp Phe Thr Glu Glu Gly Cys Val Trp Gln
1 5 10

<210> 278

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> Peptide of randomly generated, non-naturally occurring sequence

<400> 278

Leu Gln Met Cys Trp Phe Thr Glu Lys Gly Cys Glu Val Pro
1 5 10

<210> 279

<211> 24

<212> PRT

<213> Artificial Sequence

<220>

<223> Peptide of randomly generated, non-naturally occurring sequence

<400> 279

Ala Gln Gln Gln Gln Lys Leu Gln Cys Glu Phe Ser Thr Ser Gly Cys

1 5 10 15

Pro Asp Leu Pro Leu Met Leu Glu
 20

<210> 280

<211> 24

<212> PRT

<213> Artificial Sequence

<220>

<223> Peptide of randomly generated, non-naturally occurring sequence

<400> 280

Ala Gln Gln Ser Gln Lys Leu Gln Cys Glu Phe Ser Thr Ser Gly Cys
1 5 10 15

Pro Asp Leu Pro Gln Met Leu Glu
 20

<210> 281

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> PCR forward primer to amplify phage clones

<400> 281

gtagctcac tcattaggca c

21

<210> 282

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> PCR reverse primer to amplify phage clones

<400> 282

gtaccgtaac actgagtttc g 21

<210> 283

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer used to sequence amplified inserts of phage clones

<400> 283

gtaccgtaac actgagtttc g 21

<210> 284

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> Linker for peptide-FC linkage

<400> 284

Gly Gly Gly Gly

1

<210> 285

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Linker for peptide-FC linkage

<400> 285

Gly Gly Gly Gly Gly

1

5

<210> 286

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Linker for peptide-FC linkage

<400> 286

Gly Gly Gly Gly Gly Gly Gly
1 5